DEPARTMENT of ENVIRONMENTAL SERVICES Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: GORHAM POND		Lake Area (ha):	41.52
Town: DUNBA	RTON	Maximum depth (m):	6.0
County: Merri	mack	Mean depth (m):	2.9
River Basin: Merri	mack	Volume (m³):	1201000
Latitude: 43°04	'16" N	Relative depth:	0.8
Longitude: 71°38	'05" W	Shore configuration:	1.14
Elevation (ft):	425	Areal water load (m/yr)): 8.82
Shore length (m):	2600	Flushing rate (yr ⁻¹):	3.00
Watershed area (ha): 802.9	P retention coeff.:	0.57
% watershed ponded	0.0	Lake type:	natural

BIOLOGICAL:	16 January 1995	27 June 1994
DOM. PHYTOPLANKTON (% TOTAL) #1	ASTERIONELLA 40%	DINOBRYON 50%
#2	SYNURA 35%	TABELLARIA 40%
#3	PERIDINIUM 25%	
PHYTOPLANKTON ABUNDANCE (units/mL)		
CHLOROPHYLL-A (µg/L)		11.33
DOM. ZOOPLANKTON (% TOTAL) #1	KERATELLA 43%	CODONELLA 32%
#2	KELLICOTTIA 32%	KERATELLA 17%
#3		NAUPLIUS LARVA 16%
ROTIFERS/LITER	102	93
MICROCRUSTACEA/LITER	15	37
ZOOPLANKTON ABUNDANCE (#/L)	117	196
VASCULAR PLANT ABUNDANCE		Common/Abun
SECCHI DISK TRANSPARENCY (m)		2.3
BOTTOM DISSOLVED OXYGEN (mg/L)	8.7	0.2
BACTERIA (E. coli, #/100 ml) #1		12
#2		2
#3		

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 3.4 Hypolimnion volume (m^3) : 8500 Anoxic volume (m^3) : 111000

CHEMICAL:			GORHAM PO		
	16 Janua	ary 1995	27 3	June 1994	
DEPTH (m)	2.0	4.0	2.0		4.0
pH (units)	6.0	6.0	6.6		6.2
A.N.C. (Alkalinity)	4.2	5.2	4.8		5.1
NITRATE NITROGEN	< 0.05	< 0.05	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	0.33	0.29	0.37	The state of the s	0.35
TOTAL PHOSPHORUS	0.024	0.016	0.012		0.013
CONDUCTIVITY (µmhos/cm)	67.1	69.9	65.5		66.6
APPARENT COLOR (cpu)	43	44	55		55
MAGNESIUM			0.77		
CALCIUM			3.0		
SODIUM			7.8		
POTASSIUM			0.67		
CHLORIDE	14	15	13		13
SULFATE	4	4	4		4
TN : TP	14	18	31		27
CALCITE SATURATION INDEX			3.5		

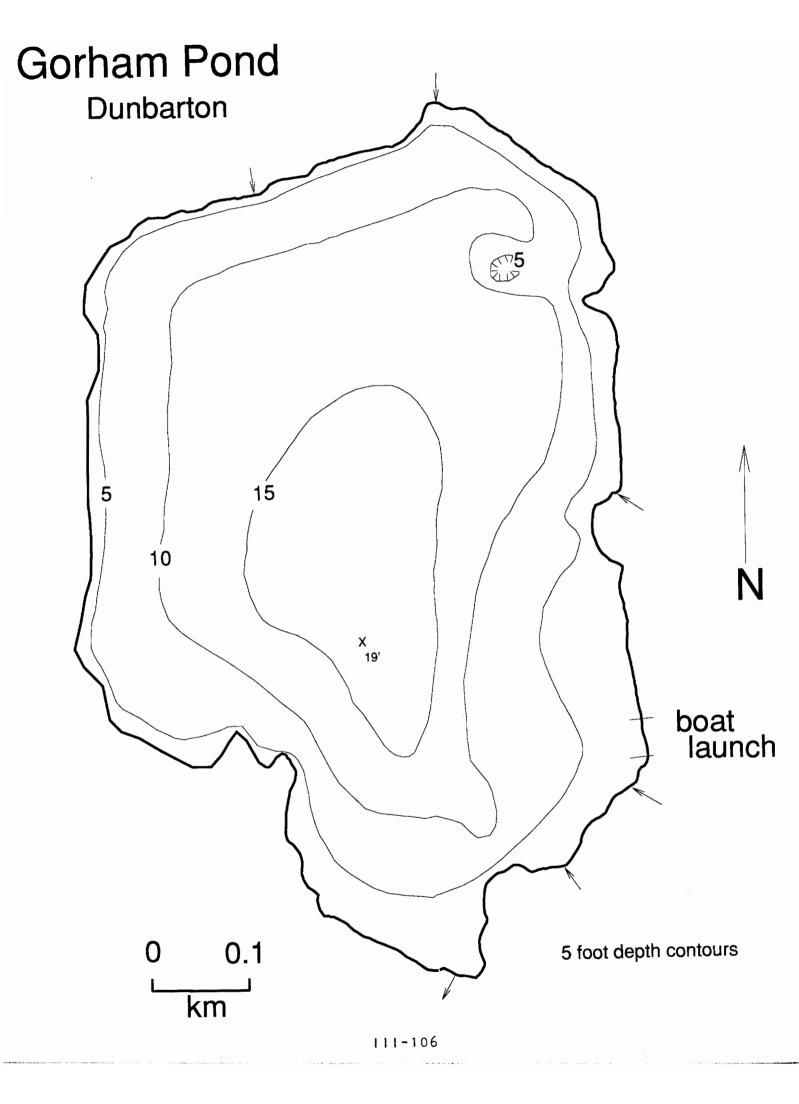
All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1994

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
4	3	4	2	13	Eutro.

COMMENTS:

- 1. This pond was previously surveyed and classified in 1980. It was rated mesotrophic in 1980. The major changes in water quality between the two dates were in algae and water clarity: the chlorophyll nearly tripled (4 to 11 mg/m³) and water clarity declined by a meter (3.3 to 2.3 m). More frequent sampling over time is needed to determine if this is a true trend or normal yearly variation.
- 2. This is a relatively shallow, tea-colored pond with very common plant growth along the shores and some wetland areas. Sodium and chloride levels indicate some drainage from salted roads or leaking subsurface disposal systems.
- 3. Boat launch site was steep but with good access to the ramp.



FIELD DATA SHEET

LAKE: GORHAM POND TOWN: DUNBARTON

DATE: 06/27/94 WEATHER: PARTLY CLOUDY; SCATTERED RAIN

DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
0.1	24.0	8.5	101 %
1.0	23.8	8.4	100 %
2.0	23.0	7.2	84 %
3.0	21.4	2.7	30 %
4.0	17.0	0.1	1 %
5.0	14.3	0.1	1 %
5.4	13.7	0.2	1 %
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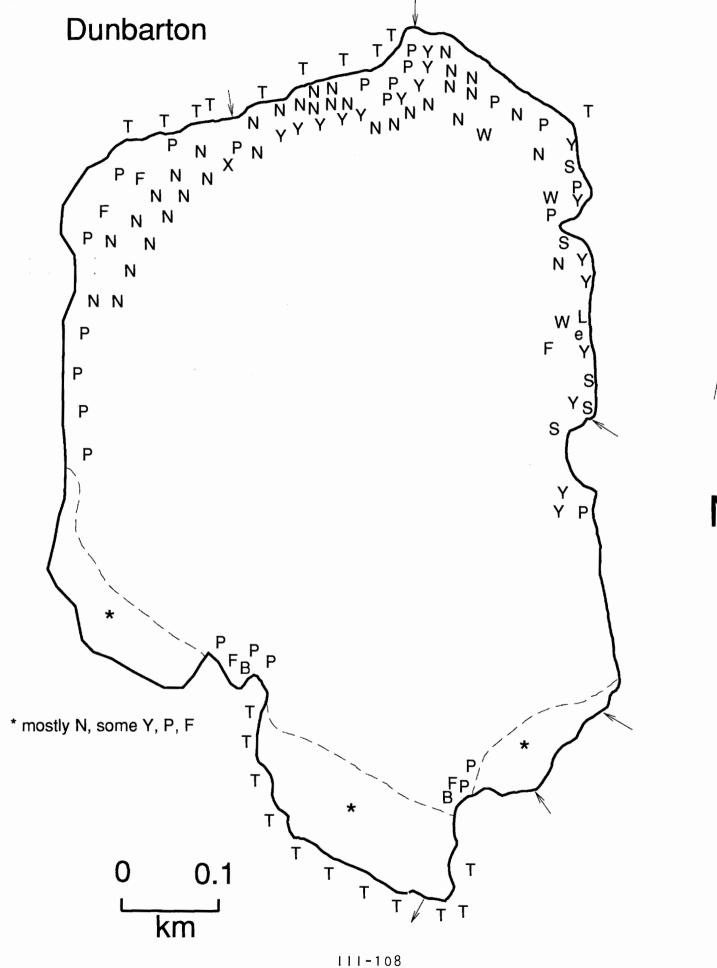
SECCHI DISK (m): 2.3 COMMENTS:

BOTTOM DEPTH (m): 6.0

TIME: 1230

*Dissolved oxygen values are in mg/L

Gorham Pond



AQUATIC PLANT SURVEY

LAK	E: GORHAM POND	TOWN: DUNBARTON	DATE: 06/27/94	
Vorr	PLANT	NAME	ABUNDANCE	
Кеу	GENERIC	COMMON	ABONDANCE	
N	Nymphaea	White water lily	Common	
Y	Nuphar	Yellow water lily	Common	
F	Nymphoides cordatum	Floating heart	Scat/Common	
U	Utricularia	Bladderwort	Common/Abun	
P	Pontederia cordata	Pickerelweed	Common	
S	Sparganium	Bur reed	Scat/Common	
T	Typha	Cattail	Scattered	
В	Brasenia schreberi	Water shield	Sparse	
х		Sterile thread-like leaf	Scattered	
W	Potamogeton	Pondweed	Scattered	
е	Eleocharis	Spike rush	Sparse	
a	Peltandra virginica	Arrow arum	Sparse	
L	Lysimachia	Loosestrife	Sparse	
		OVERALL ADVINDANCE.	Common /Abus	

OVERALL ABUNDANCE: Common/Abun

GENERAL OBSERVATIONS:

- 1. Wetlands were present at both the north and south ends of the pond, with heath plants along the western shore. Only the eastern shore was developed with cottages, with at least two tiers present.
- 2. Buttonbush was present on land along the eastern shore but is not depicted on the map.
- 3. Bladderwort was observed on the bottom along most of the shoreline but is not depicted on the map because of its abundance.